

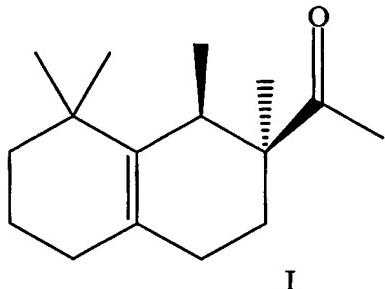
## Claims:

1. A process for the preparation of methylaluminium dichloride by the steps of
  - 5 (i) reacting by heating a material of the formula  $R_3Al_2X_3$ , where R is C<sub>1</sub>-C<sub>4</sub> alkyl and X is selected from bromine and iodine with an aluminium-containing material selected from metallic aluminium and a mixture of metallic aluminium and aluminium trichloride in an atmosphere of methyl chloride, with the proviso that when R is methyl and X is iodine, the aluminium-containing material is a mixture of aluminium and aluminium trichloride; and
    - 10 (ii) when the aluminium-containing material is metallic aluminium, adding aluminium trichloride to this reaction mixture and heating,

to give a crude reaction product; and

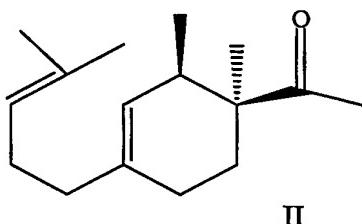
    - 15 (iii) if desired, obtaining methylaluminium dichloride from this crude reaction product.
2. A method according to claim 1, in which the material of the formula  $R_3Al_2X_3$  is selected
  - 20 from methylaluminium sesquiodide and ethylaluminium sesquibromide.
3. A method according to claim 1 or claim 2, in which the material of the formula  $R_3Al_2X_3$  is a crude mixture of unreacted raw materials and product resulting from the preparation method described by Grosse and Mativy in *J.Org.Chem.* 5, 106 (1940).
- 25 4. A method according to any one of claims 1-3, in which the metallic aluminium is particulate metallic aluminium, preferably aluminium gritty.

5. A method of preparing a compound of the Formula I



I

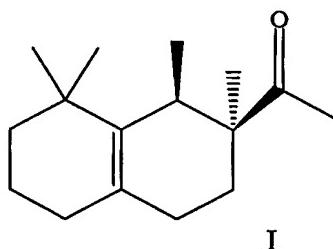
comprising the addition of a compound of Formula II



II

5 to the crude reaction product of a reaction according to Claim 1.

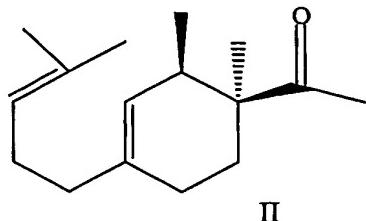
6. Use in the preparation of a compound of Formula I



I

by cyclisation of a compound of Formula II

12



of a reaction mixture prepared by the steps of

- 5 (i) reacting by heating a material of the formula  $R_3Al_2X_3$ , where R is C<sub>1</sub>-C<sub>4</sub> alkyl and X is selected from bromine and iodine with an aluminium-containing material selected from metallic aluminium and a mixture of metallic aluminium and aluminium trichloride in an atmosphere of methyl chloride, with the proviso that when R is methyl and X is iodine, the aluminium-containing material is a mixture of aluminium and aluminium trichloride; and
- 10 (ii) when the aluminium-containing material is metallic aluminium, adding aluminium trichloride to this reaction mixture and heating.